

**USE CATEGORY****C**

This procedure shall be available to workers, though not necessarily at the work location. This procedure may be performed without referring to the procedure; however, the user is still responsible for adhering to the procedure.

# TECHNICAL MANUAL

**MD-81020, ISSUE 19**

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## WASTE CERTIFICATION PROGRAM PLAN

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**CHANGES INCORPORATED**

- ☐ New
- ☐ Replace Pages
- ☐ Insert (New Pages)
- ☐ Remove
- ☒ Complete Reprint

This issue has been reviewed and approved by the TR, Lisa A. Turner.

<u>Lisa A. Turner</u>	<u>05-06-04</u>
	Date

This issue is authorized for use by Advance Change Order on file in Technical Manuals.

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## **PUBLICATION RECORD**

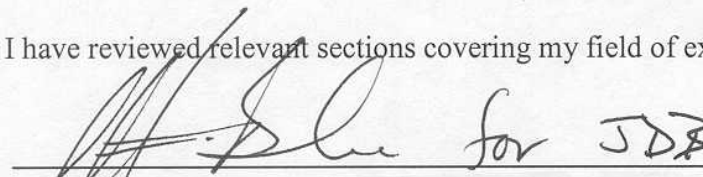
<b>ISSUE</b>	<b>APPROVAL DATE</b>	<b>TITLE</b>	<b>ACO NO.</b>	<b>EFFECTIVE DATE</b>
18	06-24-03	Waste Certification Program Plan	030034MD	04-30-03
19	05-10-04	Waste Certification Program Plan	040058MD	05-12-04

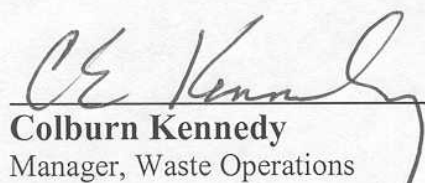
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**WASTE CERTIFICATION PROGRAM PLAN**


**PEER REVIEW LISTING**

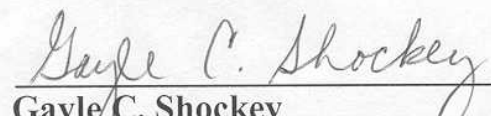
I have reviewed relevant sections covering my field of expertise in MD-81020.

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☒ Denotes change

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## ABBREVIATIONS/ACRONYMS

ACO/ECN	Advance Change Order / Engineering Change Notice
ALARA	As Low As Reasonably Achievable
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
BOL	Bill of Lading
CARS	Corrective Action Response System
CFR	Code of Federal Regulations
CI	Configuration Index
DECAR	Discrepancy Evaluation Corrective Action Report
DOE	U. S. Department of Energy
DOE/OH	U. S. Department of Energy / Ohio Field Office
DOE/MEMP	U. S. Department of Energy / Miamisburg Environmental Management Project
DOE/HQ	U. S. Department of Energy / Headquarters
DOE/NNSA/NSO	U. S. Department of Energy / National Nuclear Security Administration / Nevada Site Office
DOT	Department of Transportation
EPA	Environmental Protection Agency (Ohio and/or U.S.)
ETA	Estimated Time of Arrival
LLW	Low-Level Radioactive Waste
LWIS	Low-level Waste Information System
M&TE	Measurement & Test Equipment
MRB	Material Review Board
NTS	Nevada Test Site
NTSWAC	Nevada Test Site Waste Acceptance Criteria
NQA	Nuclear Quality Assurance
OJT	On the Job Training
OSHA	Occupational Safety Health Administration
PSDR	Package Storage and Disposal Request
QA	Quality Assurance
RCRA	Resource Conservation and Recovery Act
TID	Tamper Indicating Devices
TR	Technically Responsible
TRU	Transuranic waste
WAC	Waste Acceptance Criteria
WCO	Waste Certification Official
WCPP	Waste Certification Program Plan

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## REFERENCES

Reference material for specific waste streams are in Nevada Test Site Waste Profiles.

<b>Code of Federal Regulations</b>	
10 CFR Part 835	<i>Occupational Radiation Protection</i>
40 CFR Part 260	<i>Hazardous Waste Management System: General</i>
40 CFR Part 261	<i>Identification and Listing of Hazardous Waste</i>
40 CFR Part 262	<i>Standards Applicable to Generators of Hazardous Waste</i>
40 CFR Part 263	<i>Standards Applicable to Transporters of Hazardous Waste</i>
40 CFR Part 264	<i>Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities</i>
49 CFR Part 171	<i>General Information, Regulations, and Definitions</i>
49 CFR Part 171.15	<i>Immediate Notice of Certain Hazardous Materials Incidents</i>
49 CFR Part 171.16	<i>Detailed Hazardous Materials Incident Reports</i>
49 CFR Part 172	<i>Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements</i>
49 CFR Part 173, Subpart I	<i>Class 7 (Radioactive) Materials</i>
49 CFR Part 177	<i>Carriage by Public Highway</i>
49 CFR Part 178	<i>Specifications for Packagings</i>
<b>Other External Documentation</b>	
DOE/NV-325	<i>Nevada Test Site Waste Acceptance Criteria (NTSWAC)</i>
ASME NQA-1	<i>Quality Assurance Requirements for Nuclear Facility Applications</i>
SW-846	<i>Test Methods for the Evaluation of Solid Waste</i>
<b>DOE Orders</b>	
435.1	<i>Radioactive Waste Management</i>
414.1A	<i>Quality Assurance</i>
460.1A	<i>Packaging And Transportation Safety</i>
460.2	<i>Departmental Materials Transportation And Packaging Management</i>
5400.5	<i>Radiation Protection of the Public and the Environment</i> (Paragraph 1a(3)(a) of Chapter II is canceled by DOE O 231.1)

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## ☒ REFERENCES (Continued)

<b>Miamisburg Closure Project (MCP) Manuals</b>	
MD-10001	<i>A Guide for Publishing New or Revised Technical Manuals</i>
MD-10028	<i>Material Acceptance General Procedure</i>
MD-10055	<i>Mound Supplier Quality Rating System</i>
MD-10060	<i>Material Review Board</i>
MD-10095	<i>Engineering Change Notice (ECN) Preparation Instructions</i>
MD-10096	<i>M &amp; TE Program</i>
MD-10120	<i>Configuration Index System</i>
MD-10169	<i>Supplier Evaluation Program</i>
MD-10541	<i>Software Quality Assurance Plan for Mound Exit Project</i>
MD-10215	<i>General Procedure for the Calibration of Radiation Protection Instrumentation</i>
MD-10346	<i>Procedures for Discrepancy Evaluation/Corrective Action Report System</i>
MD-10419	<i>Specific Sampling &amp; Analysis Plan for Packaged Cemented Alpha Sludge</i>
MD-10540	<i>Records Management Strategy for Miamisburg Closure Project</i>
MD-30071	<i>Waste Management Containers, Material Acceptance</i>
MD-80030	<i>Environmental Analytical Procedures</i>
MD-80036	<i>Radiological Operations Procedures</i>
MD-80045	<i>Mound Methods Compendium</i>
MD-81020	<i>Waste Certification Program Plan</i>
MD-81040	<i>Waste Certification Procedures Manual</i>
MD-81240	<i>Low-Level Radioactive Waste Management Operations</i>
MD-81250	<i>Waste Certification Inspection Manual</i>
MD-81251	<i>Waste Certification Process Surveillance Manual</i>
MD-81400	<i>WIDS Computer User Manual</i>
<b>NOTE:</b>	Manuals for specific waste streams are included in their Nevada Test Site Waste Stream Profiles.
<b>Systems Manuals</b>	
721	<i>Emergency Management System</i>

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<b>Miamisburg Closure Project (MCP) Specifications and Drawings</b>	
OPA920000	Low-level Waste Information System (LWIS)
OPA920003	Nevada Test Site Waste Acceptance Criteria
OPA980015	NTS Waste Profile AMDM-000000002
OPA980018	NTS Waste Profile AMDM-000000012
OPA980019	NTS Waste Profile AMDM-000000015
OPA980020	NTS Waste Profile AMDM-000000016
OPA980021	NTS Waste Profile AMDM-000000018
OPA980030	NTS Waste Profile AMDM-000000027
OPA980031	NTS Waste Profile AMDM-000000028
OPA990038	NTS Waste Profile AMDM-000000017
OPA990040	NTS Waste Profile AMDM-000000026
OPA990041	NTS Waste Profile AMDM-000000031
OPA000011	NTS Waste Profile AMDM-000000032
OPA020060	NTS Waste Profile AMDM-000000038
OPA010023	Position Paper on the Proper Characterization and Disposal of Sealed Radioactive Sources
OPA010024	Position Paper for High Moisture Content Waste
OPA010025	Position on the use of Lead Shielding for the Disposal of Low Level Radioactive Waste at the Nevada Test Site
OPA010068	Management Plan for the Disposal of Low-Level Waste with Regulated Asbestos Waste
OPA040000	NTSWAC Implementation Crosswalk
SPA930055	Low-Level Radioactive Waste Prohibited Materials List
SPA930446	Lot Submittal Record Requirements
<b>Miamisburg Closure Project (MCP) Policy/Procedures</b>	
PP-1059D	<i>Conduct of Operations</i>
PP-1059F	<i>Radiological Control</i>
PP-1060A	<i>Quality Assurance Program Plan</i>
PP-1060C	<i>Management and Independent Assessment Program</i>
PP-7609	<i>Records Management</i>

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## 1. ORGANIZATION

### ☒ 1.1

#### Purpose

The purpose of this document is to ensure control of packaging, storage and disposal of LLW generated by CH2M HILL Mound, Inc. (CH2M HILL) in accordance with NTSWAC requirements. It ensures MCP management and DOE that adequate controls are in place to perform LLW management operations on approved waste stream(s). It describes the program whereby the Waste Certification organization provides certification of LLW packages prior to shipment for off-site disposal at NTS.

The principal guidance for development of this Waste Certification Program Plan (WCPP) is provided in Section 5 of the NTSWAC. In addition, this plan is developed to comply with the requirements of 10 CFR 830, Subpart A, *Quality Assurance Requirements*. These requirements are addressed for the Miamisburg Closure Project (MCP) site in PP-1060A, *Quality Assurance Program Plan* (replaces MD-10334, *Mound Quality Assurance Program*). The ER & Waste Management implementation of the requirements of PP-1060A is encompassed in this document for LLW operations for NTS burial. Additional requirements of primary importance to the MCP Waste Certification Program include:

- Title 10 CFR Part 835
- Title 49 CFR Part 173, Subpart I
- Title 40 CFR Part 262
- DOE Order 435.1
- DOE Order 5400.5

The quality requirements in this plan provide policy and assign responsibilities for ensuring the quality of performance necessary to meet program objectives.

This WCPP covers general LLW program requirements for MCP. Nevada Test Site Waste Profiles will be used for specific waste stream requirements. Waste stream specific issues usually fall into two categories:

- [1] Additional controls necessary on a given waste stream
- [2] Specific waste containers

Changes affecting all waste streams result in this WCPP being revised. Changes affecting a waste stream or subset of waste streams result in Waste Profiles being written or revised.

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## 1.2 Scope

This plan is applicable to all LLW streams designated to ship to NTS.

The provisions of this plan apply to activities associated with generation, packaging, storage, treatment, and preparation for shipment for off-site disposal of LLW to NTS. These activities include: acquisition, inspection, handling, utilization, and on-site storage of empty containers, loading, handling, and on-site storage of filled waste packages, certification of waste packages, Quality oversight, and maintenance of records and any other systems which support this plan. Responsibilities assigned to various organizations and positions pertinent to this WCPP are discussed in Section 1.3.

## ☒ 1.3 Functions and Responsibilities

See the organizational chart in Figure 1 for a simplified representation of the functions discussed in this section.

### ER & Waste Management Project

- [1] Has oversight responsibility at MCP for control of radioactive waste packaged by waste generators, including the acquisition, inspection, handling, utilization, and storage of radioactive waste materials generated on-site, and the performance of radioactive waste processing and packaging operations;
- [2] Has responsibility for pre-shipment staging of radioactive waste packages; and
- [3] Has responsibility for the certification of waste packages and shipments for off-site disposal. ER & Waste Management is responsible for coordination with all radioactive waste generator organizations at MCP to ensure implementation of this WCPP. The primary functional units within ER & Waste Management pertinent to this WCPP are Waste Coordinators, Waste Certification / Compliance, Waste Management Technicians , and Technical Resources.

Manager, ER & Waste Management Project - Has overall responsibility for management of site waste management activities. Ensures that implementation of the Hazardous Waste, Radioactive Waste, and Waste Certification Operations programs are accomplished by designated technical personnel.

Manager, Waste Operations - Has overall operational responsibility for site waste management activities. Ensures that implementation of the Hazardous Waste, Radioactive Waste, Mixed Waste and Solid Waste Operations programs are accomplished by designated technical personnel.

Waste Operations - Ensures the receipt of properly packaged waste from generators.

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These packages are then inspected, marked and labeled, and staged/stored. Approved packages are prepared and documented for shipment for disposal. Waste Operations are responsible for loading and shoring of containers and shipment data packages for each radioactive waste shipment.

Waste Management Technician - Assists in management of the radioactive waste storage facilities, control of inventory, input of information in database and preparation of wastes for off-site shipment.

Shipping - Has responsibility to provide carriers for off-site transport of LLW for disposal, preparation of a Bill of Lading (BOL) for each shipment, notifying the disposal site of shipment ETA and any variance in stated arrival time as documented in MD-81240. Responsible for MD-30071 (Material Acceptance Operation Sheets). Additionally, certifies that shipments meet all applicable DOT requirements for off-site transportation by signing the BOL. Has responsibility for data entry into the Low-level Waste Information System (LWIS) computer system. LWIS is used to print shipment bar code labels and the Package Storage and Disposal Request Form for each shipment. Also provides a disk copy of the Data Transmission File to NTS after each shipment. These activities are described in OPA920000 (the LWIS data transmission guide). Generates and provides 741 Form to NTS.

Manager, Waste & ER Engineering - Has overall responsibility for site waste management activities. Ensures that implementation of Waste Certification / Compliance and Radiological Protection Operations programs are accomplished by designated technical personnel. Provides technical quality expertise in the specification of waste containers, packaging, and materials. Responsible for establishing formal inspection criteria for new containers and other critical materials and activities. Ensures that implementation of Waste Coordination programs are accomplished by designated technical personnel.

Waste Certification/Compliance - Has final responsibility for release of LLW from MCP. Waste Certification has the responsibility to maintain the formal WCPP. Specific personnel responsibilities within Waste Certification include:

Waste Certification Official - Either the chief or alternate Waste Certification official provides the final waste certification for each LLW shipment meeting applicable waste acceptance criteria for transportation and disposal according to DOT, EPA, and DOE requirements. Certifies each waste package and shipment complies with NTSWAC requirements. Conducts process surveillance.

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A Waste Certification Official (WCO) is independent of cost and schedule concerns with dotted line reporting authority to the Deputy Site Manager. Responsible for manuals MD-81020 (the waste certification program manual), MD-81040 (the waste certification procedures manual), MD-81250 (the waste certification inspection manual), and MD-81251 (the waste certification surveillance manual). Instructs Waste Certification/Compliance personnel on in-process and/or final shipment inspections. Provides independent inspections, surveillances, and assessments to ensure that applicable requirements are met, that deviations are documented and corrective actions are performed and verified. Responsible for the DECAR system as documented in MD-10346 (the DECAR manual).

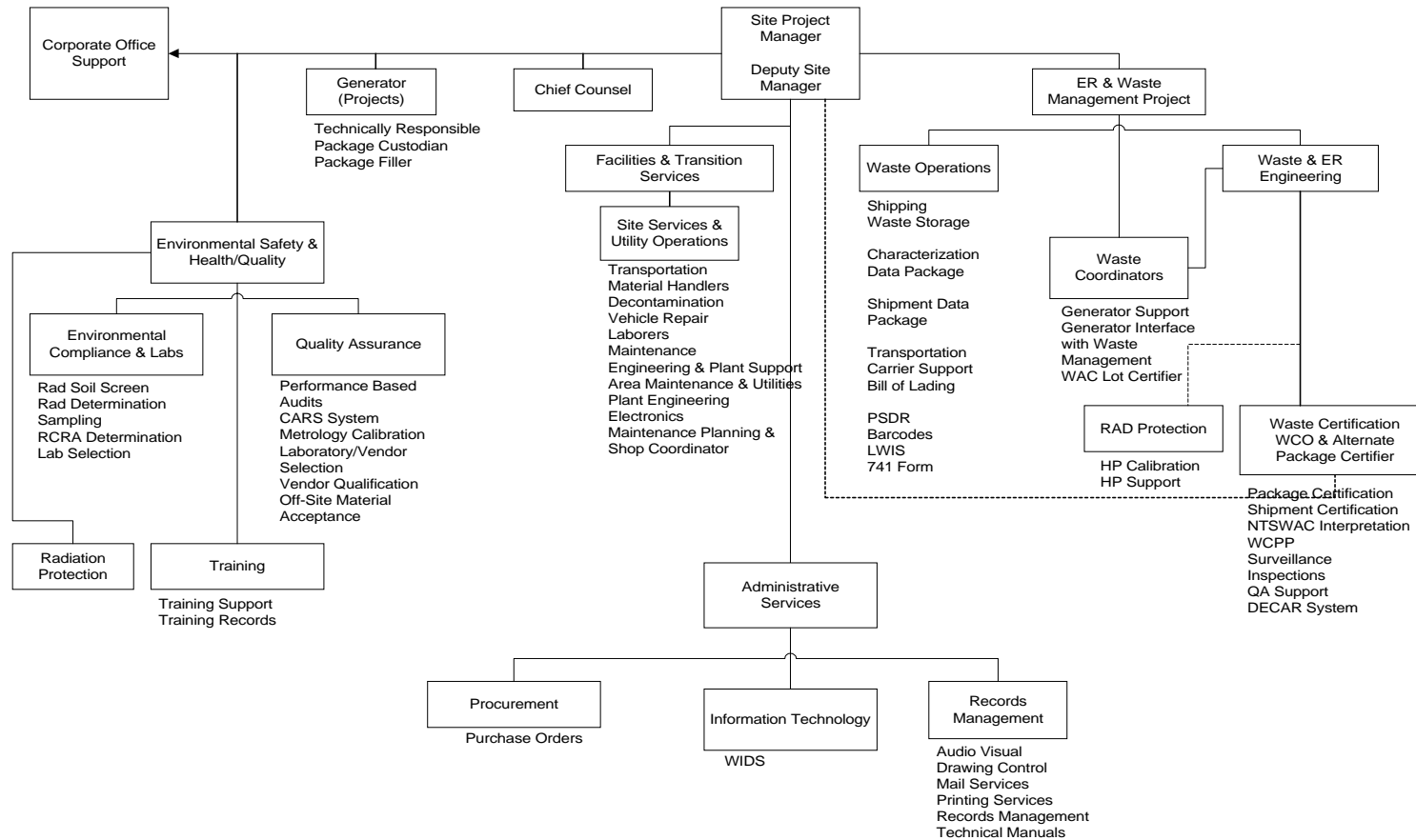
Alternate Waste Certification Official - Reports to the Chief Waste Certification Official (CWCO) for certification activities. Acts as the CWCO when the CWCO is unavailable. (See Waste Certification Official description above.)

Waste Package Certifier/Waste Certification Official or Alternate - Assists in implementing the formal WCPP. Responsibilities include creating and monitoring certification documentation container inspection, trailer inspections, monitoring the loading of containers, package certification, and performing process surveillance in Sections 9.3 and 18.4. Secondary responsibilities include providing support to the generator community providing guidance on quality systems and performing process surveillance.

Radiological Protection - Provides radiation monitoring of waste packaging, handling and sampling operations, surveys radioactive waste packages, sample containers, sampling equipment and each transport vehicle before and after loading as documented in MD-80036 (the radiological operations procedure manual). Ensures calibration of radiation detection instrumentation as documented in MD-10215 (the radiological protection calibration procedure manual).

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Organizational Chart as Applicable to NTSWAC Operations

☒ **Figure 1 — Organizational Chart as Applicable to NTSWAC Operations**

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Waste Coordinator - Provides technical expertise to the major projects to facilitate waste planning and management. Responsible for daily support of waste management activities to ensure compliance with DOE, EPA and DOT requirements. Maintains waste inventory and characterization records.

Waste Acceptance Criteria (WAC) Lot Certifier - The WAC Lot Certifier is an individual in the generator organization who is responsible for the waste packages being certified. The WAC Lot Certifier is responsible for assembling analytical data certifications, determinations and/or process knowledge into a characterization data package according to SPA930446 (Lot Submittal Record Requirements) to support his/her signature on a form ML-9147B to Waste Certification and certifying compliance to the waste acceptance criteria of NTSWAC. This form and data package are specific to a given lot or subplot of waste packages, and both are sent to Waste Certification for review, acceptance and inclusion in Waste Certification files. Waste packages will not be certified by Waste Certification unless this set of documents is on file in Waste Certification.

Manager, Environmental Safety & Health/Quality – Has overall site responsibility for Quality Assurance, Training, Environmental Compliance & Labs, and Radiation Protection.

Training - Has the responsibility to provide training support, maintains documentation on courses at MCP and individual training records.

Environmental Compliance & Labs - Responsible for verification of radiological analysis of radiological determination (verification and validation of data) as documented in MD-80030 (the environmental analytical procedures manual). Additionally responsible for soil screening as documented in MD-80030. Environmental C & L has the lead role for preparation of sample plans, characterization, and qualification and selection of analytical laboratory services. Provides data validation of analytical results resulting in a RCRA determination for generators and Waste Certification/Compliance. Is responsible for taking samples and sending them to analytical laboratories.

Environmental Safety & Health/Quality - Provides independent audits of activities pertinent to the formal WCPP as documented in PP-1060C (the performance-based audit procedure manual). Administers the Corrective Action Response System (CARS) database for tracking audit findings.

Also responsible for evaluating suppliers from the initial qualification to monthly supplier quality ratings as defined in MD-10055 (the supplier quality rating procedure manual), MD-10060 (the Material Review Board [MRB] manual), and MD-10169 (the supplier evaluation manual). Also conducts acceptance

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inspections for purchased materials (for example, waste containers) in accordance with established procedures in MD-10028 (the material acceptance procedure manual) and MD-30071. Responsible for calibration of M&TE other than radiation detection instrumentation used to support LLW shipments, as documented in MD-10096 (the metrology quality plan).

Generator - Any trained & qualified project or organization at MCP which is responsible for generating and/or packaging of radioactive waste. Within a generator organization the following individuals have specific responsibilities relating to the WCPP:

Technically Responsible - The technically responsible person designated in the generator organization maintains the Technical Manuals and Specifications that govern the generation, inspection, and control of waste within his or her organization to meet NTSWAC requirements.

Package Custodian - The Package Custodian is an individual in the generator's organization who is *accountable* for maintaining control over assigned waste packages to ensure that only items on the Acceptable Materials List for the waste stream were placed in the waste packages. After inquiry and/or personal observation of the package and/or Package Filler, a Package Custodian verifies that:

- Container is properly secured;
- Approved procedures were available at the site.

The Package Custodian then signs the ML-7042X form accepting accountability for that waste package.

Package Filler - An individual in or working for a generator organization who actually fills waste containers. Package Fillers may be delegated the responsibility for control of waste packages under a Package Custodian's control. A Package Filler initials the ML-7042X form signifying that:

- Container was provided the required security.
- Procedures were followed.
- Only acceptable materials were placed inside the container (to the best of their knowledge).

Additional Forms (depending on the Waste Stream) may be required to provide traceability (i.e., traveler for overpacked containers). These forms are referenced in specific operating procedures.

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Manager, Administrative Services – Has overall responsibility for Records Management, Procurement & Information Technology.

Records Management - Has the responsibility to maintain manuals in a controlled manner implementing only properly authorized changes and providing historical files for traceability. Responsible for maintaining drawings and specifications in a controlled manner implementing only authorized changes and providing historical files for traceability.

Procurement - Has the responsibility to process purchase orders.

Information Technology - Maintains the WIDS inventory software.

### ☒ 1.4

#### **MCP Plant Organization and Mission**

Operated by CH2M HILL for DOE under Contract No. DE-AC24-03OH20152. Prior to January 1, 2003, the facility was operated by BWXT of Ohio, Inc. Prior to October 1, 1997, the facility was operated by EG&G Mound Applied Technologies. Prior to October 1, 1988, the Monsanto Research Corporation, a subsidiary of the Monsanto Company, operated the facility. The CH2M HILL contract is administered by the DOE/MEMP with offices located at MCP. DOE/OH is the responsible field office.

The current mission of CH2M HILL is to complete the Miamisburg Closure Project as safely, economically, and timely as possible.

### **1.5**

#### **Specific Waste Management Organization**

CH2M HILL is the major contractor involved in waste generation and waste management activities at the MCP site. As shown in Figure 1, Waste Management reports directly to the Manager of ER & Waste Management who reports to the Site Project Manager. This reporting chain also represents approval authorities associated with Waste Management and Waste Certification activities; however, the Chief Waste Certification Official has direct reporting authority to the Deputy Site Manager whenever necessary to ensure the integrity of the WCPP.

Waste Management operations for shipment of LLW to NTS are diagrammed in Figure 2. Individual waste management procedures for generators are described in individual work packages and/or technical manuals. Manuals and work packages associated with a specific waste stream are detailed in the specific Waste Profile.

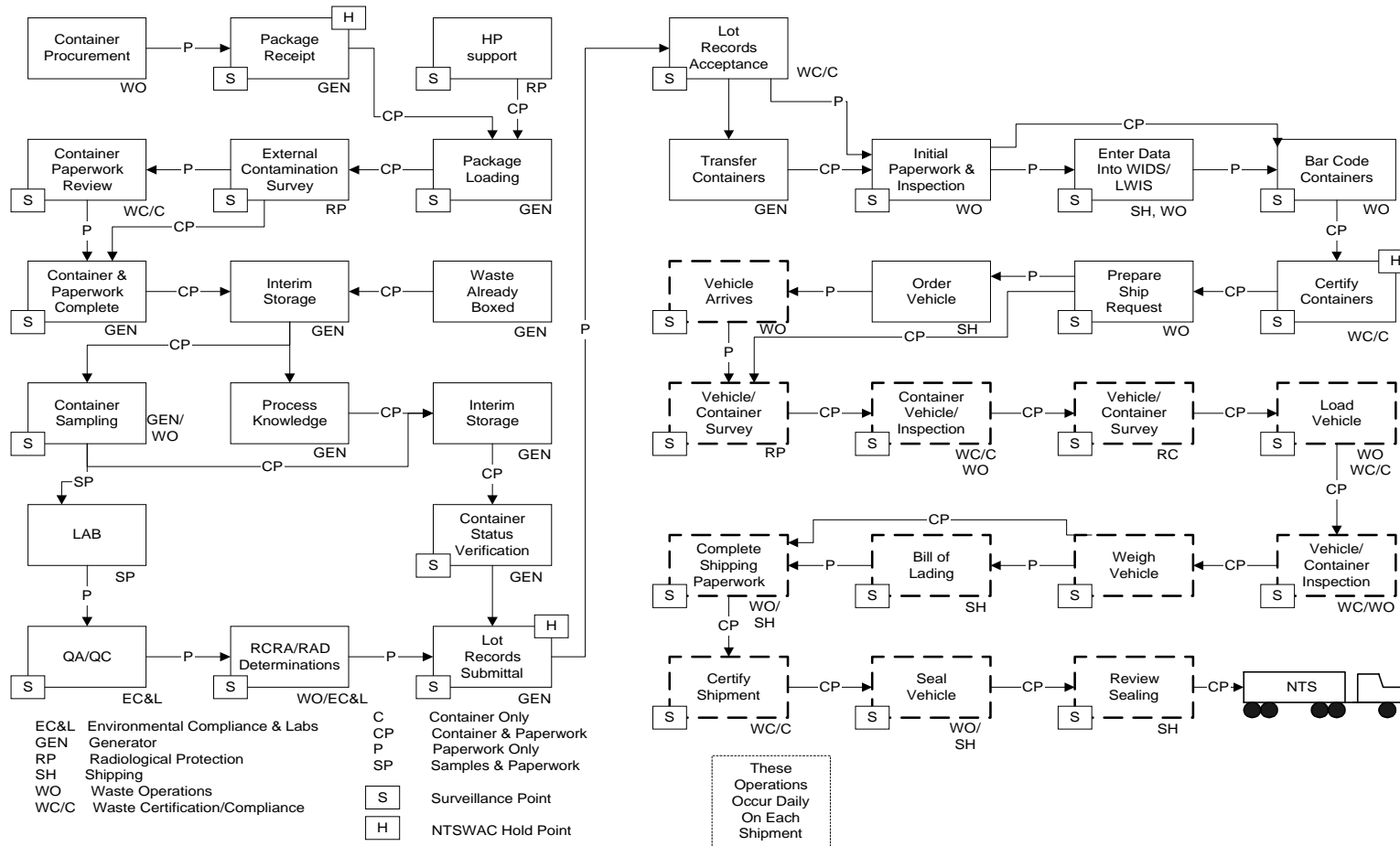
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Waste Certification Officials function independently of other departments when performing waste certification activities and have final responsibility to certify that waste shipments meet criteria of NTSWAC, as described by specific Nevada Test Site Waste Profiles and the referenced supporting documentation. Responsibility for implementation and interpretation of the WCPP resides with the Chief Waste Certification Official.

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Packaged Form Low - Level Radioactive Waste to NTS

☒ Figure 2 — Packaged Form Low—Level Radioactive Waste to NTS

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### ☒ 1.6

#### LLW Managed at MCP

Waste Management has responsibility for managing wastes generated at MCP, including: LLW, TRU, Mixed LLW, Mixed TRU, nonradioactive hazardous waste, and nonhazardous sanitary waste. Only LLW is currently proposed for shipment.

**NOTE:** Although it is not considered to be hazardous waste, MCP is currently shipping Asbestiform Low-Level Waste (ALLW) to NTS per OPA010068.

LLW comprises over 95% of the total volume of radioactive waste generated annually at MCP. The LLW packages are transported by commercial carriers in or on exclusive-use vehicles for burial. Packaging and characterization data for each waste stream will be included in each specific Nevada Test Site Waste Profile.

Forecasts of waste volume, radioactive species, total curie content, copy of the analysis of a representative sample, number and type of packages, and number of shipments are provided to DOE/NNSA/NSO based upon waste stream numbers to aid in planning for future waste shipments.

A shipment number, container identification number, waste stream identification number, and gross weight are assigned to each filled waste package. Waste packages are stored and staged for final shipment preparation. Waste Certification personnel visually check each package for damage, such as dents, holes, cracks, and other nonconformances. Nonconforming waste packages are identified, clearly marked, segregated (when practical), and a DECAR initiated as per MD-10346 to determine corrective action and disposition.

Containers are loaded and secured in or on exclusive use vehicles in a manner to prevent shifting under conditions normally incident to transportation and to meet weight restrictions. Containers are configured to ensure that radiation exposure to the driver and the public conforms with present DOT regulations.

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Only DOE evaluated and APPROVED rated carriers are used for LLW shipments to NTS in compliance with DOE Order 460.2. DOE/NNSA/NSO is notified when (1) the motor carrier(s) is being evaluated, (2) the motor carrier route selection is being reviewed, (3) a motor carrier discrepancy, noncompliance, or inadequate performance has been identified; or there is a transportation incident or emergency situation per MD-81240. A carrier/driver instruction packet is given to each driver prior to departure. This packet contains carrier/driver instructions for radioactive shipments, instructions regarding controls for radioactive shipments consigned as exclusive use, suggested routing through the Las Vegas area, 49 CFR 171.15 and 171.16 notification procedures, and DOE regional coordinating offices for radiological assistance and geographical areas of responsibility.

## **2. QUALITY ASSURANCE PROGRAM**

### **2.1 QA Program Plan**

This WCPP and associated implementing procedures and policies set the groundwork for achieving or exceeding the required levels of quality for packaging and shipping of LLW to NTS for disposal. These documents define a program, which satisfies the requirements of DOT, EPA, DOE, NTS and MCP Policy Procedure PP-1060A.

The authority and responsibilities for the overall quality of MCP operations rests with the Site Manager. The responsibility for establishing, executing and evaluating the WCPP is assigned to the Chief Waste Certification Official. Waste Certification has oversight responsibility for ensuring that appropriate QA activities for Waste Management are established and effectively executed, and verifying that activities affecting the WCPP are correctly performed.

LLW streams are characterized to determine radiological and chemical characteristics. The waste characterization is documented according to SPA930446.

Product quality and adherence to related policy is a plant-wide responsibility, including individuals and departments. Employees are responsible for compliance with the requirements of this WCPP and implementing procedures as it applies to their work assignments. Responsibility for evaluation of Waste Management QA plans and procedures is delegated to Waste Certification. Waste Certification is charged with the responsibility, and has the commensurate authority to make objective judgments, recommendations, and decisions within the plant policy and this plan.

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## ☒ 2.2 Certification Personnel

The Chief Waste Certification Official is Lisa A. Turner and the alternates WCO are Daniel M. Kapsch and Gayle C. Shockey.

They are responsible for verifying that wastes shipped are in compliance with applicable requirements. Waste Certification/Compliance personnel are responsible for certifying each package and shipment. The program empowers Waste Certification/Compliance personnel as an independent overview organization with authority to withhold approval of shipments, and provides a means to address non-conformances via the DECAR system.

## ☒ 3. DESIGN CONTROL

Design Control issues are assessed during the Waste Profile preparation by the Waste Coordinator. Design control for packages, processes, and facilities are discussed below.

### 3.1 Waste Packages

Package performance is dictated by DOT regulations and NTSWAC requirements. Waste Certification ensures waste packages meet DOE, DOT, and NTSWAC requirements. This is accomplished via qualification testing of each design and each lot.

Design analysis is performed by on site engineering on the basis of best engineering practice and documented via internal memo to Waste Management. Specific design analysis activities, such as stress analysis and load performance, are documented by Quality Assurance in files maintained by that group.

Original designs, and changes to existing designs, are reviewed and approved by technically qualified personnel.

### 3.2 Facilities

Design control with respect to waste processing facilities is determined on an ad hoc basis for each project. Documentation of the process is the responsibility of the project engineer with review and approval by the WCO.

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## 3.3 Processes

Waste generating processes are reviewed by the WCO and the respective project Waste Coordinator. New generating processes and changes to approved processes are reviewed the same way.

## 4. PROCUREMENT DOCUMENT CONTROL

### 4.1 Items and Services

Items and services critical to the Waste Certification Program are procured under a controlled and documented system, and controlled from initiation of a purchase requisition to the release of an item for use. Control methods are implemented for:

- Competitive bid;
- Identification of critical items;
- Inclusion of quality requirements in the purchasing documents;
- Approval of the purchasing documents by the appropriate manager;
- Approval of the supplier quality program and submittals; and
- Receipt, inspection and release of supplied items as documented in MD-10055 (the supplier quality rating manual) and MD-10169 (the supplier evaluation manual).

### 4.2 Purchase Change Orders

Proposed changes to an existing procurement contract are formally communicated to a vendor. The purchase change order communicates the change and requests cost/schedule impacts from a supplier. The purchase change order becomes part of the original documentation for that contract. Records are kept by Procurement.

### 4.3 Waste Certification Review

All purchase requisitions; orders and change orders pertaining to waste packaging must be routed through Waste Certification per MD-81240 to ensure that the proper quality requirements have been included.

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### 5. INSTRUCTIONS, PROCEDURES, DRAWINGS

#### ☒ 5.1 General

Activities governed by this WCPP are controlled by formal procedures/manuals, drawings, and specifications. Appropriate approvals verify that particular control requirements have been satisfied and that procedures are acceptable for their intended use. A complete listing of documents pertinent to the WCPP is found in the reference section or in each specific Waste Profile or in OPA040000, *NTSWAC Implementation Crosswalk*.

#### 5.2 Peer Review

Program-specific procedures, drawings and specifications may have a peer review. The intent is for a multi-discipline review of a document. The peer review process is informal with no requirement to document it.

### 6. DOCUMENT CONTROL

#### ☒ 6.1 Manuals, Drawings and Specifications

The authorization, preparation, review, acceptance, distribution and update of documents pertaining to this WCPP are subject to a formal control system as documented in MD-10001 (the technical manual guide), MD-10095 (the change control form manual), and MD-10120 (the configuration index manual). Current process design information such as technical manuals, drawings, and specifications are maintained and controlled by Configuration Control. The master files are updated as authorized changes and revisions are received.

The manuals are kept current and historically maintained by Configuration Control to provide traceability for associated processes and products. Specifications and drawings are kept current and historically maintained by Configuration Control to provide traceability for associated processes and products.

Changes to operating instructions are documented through a formal change order system as described in MD-10095. An Engineering Change Notice (ECN) Form 3797A is initiated to change any formally controlled document, as specified in MD-10095. An ECN changing LLW documentation requires the review, approval, and signatures of the Technically Responsible person, the Waste Certification representative, and TR Manager.

The Senior Manager (or documented designee) will ensure that the appropriate

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Additional Approvals have been conducted and identified by signing the form.

Red-lined documentation is acceptable for use and becomes official as long as the ECN has been "stamped in" at Drawing Control and red-lined on the CI. Procedures to properly red-line drawings, specifications, manuals, and operation sheets are documented in MD-10095.

MCP documents pertaining to radioactive waste generation, segregation, treatment, and packaging are originated and developed by the respective generator and other support organizations with coordination and oversight by Waste Management. Procedures and documents pertaining to storage, shipping, certification and quality are originated and developed by Waste Management.

### ☒ 6.2

#### External Documentation

External documentation can also be placed within MCP's formal control system. Once it is decided that an external document requires control, the TR person obtains an OPA number from Configuration Control (e.g., OPA 920003, NTSWAC). That OPA number, issue and sequential page numbers are then placed on each page and submitted to Configuration Control. The ECN is not used on external documentation since MCP has no capacity to change the document internally. Configuration Control enters the document into its system and then users can check for the proper issue on a CI, and request copies from Configuration Control.

### 6.3

#### Configuration Management

The current listing of documentation (that is, manuals, drawings, specifications, etc.) and engineering changes are maintained by a configuration control system, the CI (an on-line computer system) as described in MD-10120. The latest revision of the CI is checked daily, prior to performing any operation to determine the appropriate issue of an item (e.g., operation, drawing, specification, etc.). If the user does not have the "correct" issue of an item, then work can not proceed until the proper issue is obtained. In cases where the CI system is down, it is acceptable to use the previous days CI.

### 6.4

#### Waste Certification Change Classification

All changes to this Plan will require a new revision of the document to be sent to DOE/NNSA/NSO. All new or revisions to approved Nevada Test Site Waste Profiles will be sent to DOE/NNSA/NSO for review and approval. Changes to other documentation referenced in this plan or the Nevada Test Site Waste Profiles are provided to DOE/NNSA/NSO upon request.

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## 7. CONTROL OF PURCHASED ITEMS AND SERVICES

### ☒ 7.1 Procurement Requirements

Procurement of materials, items, and services important to the WCPP are controlled by specific requisition and purchasing procedures. Suppliers must be approved by Quality Assurance to provide a service, supply material, or to manufacture special components. Quality Level 1 and 2 purchase requisitions must reflect pertinent specifications, provisions, and quality requirements and must be reviewed by Waste Certification.

### ☒ 7.2 Procurement Support

Incoming purchases are inspected, as required, against the procurement documents. Monitoring of suppliers is performed by Quality Assurance per MD-10169 to ensure necessary quality controls are maintained during the period in which service is being performed or material is being produced and delivered.

### 7.3 Quality Controls

Quality of purchased materials and services are controlled by such activities as:

7.3.1 Establishment of incoming inspection criteria, attribute criticality and statistical sampling by Waste Certification.

☒ 7.3.2 Inspection as necessary to ensure conformance with requirements of applicable drawings and specifications by Quality Assurance and/or Procurement.

7.3.3 Review of purchase orders to ensure incorporation of pertinent technical and quality requirements by Waste Certification.

☒ 7.3.4 Examination of certified test reports demonstrating the conformance of material to requirement as directed by the purchase order by Procurement and/or Quality Assurance.

☒ 7.3.5 Notification of the subcontractor whenever nonconforming materials are received and corrective action is required of the subcontractor by Quality Assurance and/or Procurement.

7.3.6 Records management for the procurement of containers, operating procedures, calibrations, test results, and supplier certification records are maintained.

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### 7.4 Waste Container Vendor Qualification

Potential waste container suppliers are evaluated and approved by Quality Assurance as documented in MD-10169 to determine their ability to provide the product defined in the Purchase Order. Audits from other DOE sites may be substituted for an MCP audit as long as the audit from the other site has been reviewed by the WCO and an internal auditor, and is on file in Quality Assurance.

### 7.5 Analytical Laboratory Requirements

Analytical laboratory services suppliers are evaluated and monitored by a special committee formed to determine the ability of a laboratory to provide NTSWAC defensible data according to MD-80045. Audits from other DOE sites may be substituted for an MCP Audit as long as the audit from the other site has been reviewed by the WCO and an internal auditor and is on file in Quality Assurance.

### ☒ 7.6

#### Records

Evaluation records will be maintained for at least 5 years by Procurement after a vendor is no longer considered a prospective procurement source. Laboratory selection records are maintained by Quality Assurance for eight years.

## 8. IDENTIFICATION AND CONTROL OF ITEMS

### 8.1 Use Control

Materials, parts and components important to the WCPP must be properly identified, reviewed and inspected. When nonconformances are detected during vendor lot submittals, the lot is REJECTED. An MRB is convened to evaluate and document a disposition on the rejected lot. A DECAR is used for any nonconformance detected after the lot has been determined to be acceptable.

Measurement and Test Equipment to accept product is calibrated and controlled in accordance with Section 12, Control of Measuring and Test Equipment.

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### 8.2 Traceability

Radioactive waste containers used at MCP are identified and controlled by Unit I.D. (serial number) Number according to MD-81400 (the waste information database system manual). Waste containers passing the acceptance inspection are approved for use by means of a Material Acceptance Report. The unit ID number is recorded on the 7042X form. Information from this form is entered in the Waste Information Database System (WIDS) computer system and a PC (with NTS supplied software) to produce the necessary paperwork for each shipment.

Prior to package certification, each filled waste package is marked with the shipment number, package number and gross weight in both English and Metric units. Marking and labeling procedures are specified in MD-81240 (the low-level waste operations manual).

### 8.3 Low-level Radioactive Waste Input Form Applicability

Existing LLW waste streams covered by Nevada Test Site Waste Profiles will use the 7042X form.

Additional forms, depending on the Waste Stream, may be required to provide traceability (i.e., traveler for overpacked containers). These forms are referenced in specific operating procedures.

**NOTE:** On waste packages undergoing content verification it is acceptable to enter the "new" information on an ML-7042X Form, as long as the original Waste Input Form is attached.

### ☒ 8.4

#### Oversight

Requisitions are reviewed by Quality Assurance for an approved vendor and standard quality requirements. Waste Certification then reviews the requisition for specific quality requirements and current issue of the drawings and specifications. Quality Assurance receives this information and then forwards the completed and reviewed requisition to Procurement where a purchase order is sent to an approved vendor.

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## 8.5 Tracking

Tracking of waste containers is the responsibility of the organization with custody of the waste container. Tracking systems may vary depending on quantity of waste containers and operational restrictions within the organization.

- Documentation of the serial number (unit ID) and location (project) of each waste container will be required, as a minimum.

The location of a waste container means the area (project) where stored.

## 9. CONTROL OF PROCESSES

### 9.1 Standard Procedures

Processes important to the WCPP have controls and verification steps identified as part of the operating procedures and/or individual project work packages. Standard procedures have been developed to ensure safe and effective management of LLW in accordance with the requirements of DOE Order 435.1, NTSWAC and other applicable guidance.

### 9.2 Waste Characterization Plan

Waste characterization plans for LLW are developed and controlled in accordance with DOE Order 435.1, NTSWAC in accordance with SPA930446.

### 9.3 Control of Waste Certification Process

9.3.1 The entire waste certification process, which provides evidence of compliance with NTSWAC, is a controlled process, with records, statements, labels, reports, and data being used by the Waste Certification personnel to sign certification statements. Processes for procuring, inspecting, storing, filling, closing, labeling, manifesting, and shipping waste are controlled.

9.3.2 Figure 2 represents a simplified diagram for the WCPP associated with any waste stream. The black dots represent points where processes have the potential of being reviewed via surveillances to verify compliance. Waste Certification/Compliance is responsible for generating and conducting the surveillance program as defined in MD-81251. Surveillances are performed by Waste Certification/Compliance personnel. The Chief Waste Certification Official uses both sets of surveillances and documentation review as indicators to assess "how the program is running."

9.3.3 A narrative Process Surveillance Report is generated to document each

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surveillance. A DECAR will be issued for situations and/or non-conformances observed during a surveillance which require corrective action.

### 9.4 Prohibited and Acceptable Materials Lists

There are two lists that document "acceptable and unacceptable" items for any waste stream destined for disposal.

A Prohibited Materials List, SPA930055 is generic and lists unacceptable items according to the NTSWAC. Waste Certification is responsible for this document. Because of the length and complexity of this list, it serves as a guidance or reference document.

The Acceptable Materials List is the responsibility of the generator. It is a concise list found in procedural manuals and available in areas where that waste stream is being packaged. This list is waste-stream specific and lists only approved items for that waste stream. This simplified list is the primary list used by a generator to fill waste packages and is taken from the waste stream definition in the specific Waste Stream Profile.

## 10. INSPECTION

### 10.1 Philosophy

Scheduled inspections are performed for activities important to the WCPP. Inspections may be performed by any number of organizations at MCP, as long as the individual conducting the inspection did not perform the work or supervise the performance of the work. Inspections verifying compliance are performed by Waste Certification/Compliance personnel. This plan is supported by various inspection and control organizations and their supporting quality plans, through the following activities:

- Inspection, as required, of non-commercial grade items is conducted by Quality Assurance.
- ☒ Radiation surveys documenting external contamination levels are conducted by Radiological Protection prior to the release of a package for transfer to interim storage. Survey results are recorded on RSDS (Radiological Survey Data Sheets) for LLW.
- Inspections of empty trailers, filled waste packages and loaded trailers are performed prior to release of each trailer.

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- ☒ Radiation surveys of empty trailers and loaded trailers (if applicable) are performed by Radiological Protection prior to release of each trailer.

Written inspection reports are prepared and maintained.

### 10.2 Receipt Inspections

10.2.1 Receipt inspections are conducted by Quality Assurance. The acceptance status of LLW containers is documented using the following forms:

- Form 1262A, Material Acceptance Report
- Form 4026B, Quality Control Requirements

10.2.2 Receiving inspection for waste containers can be performed at the vendor site by Quality Assurance/Waste Management personnel. Acceptance of waste containers is documented by means of a Material Acceptance Report. Containers not meeting the specifications are not accepted and the MRB process takes over. The vendor may rework containers to an acceptable condition and resubmit them for inspection by Quality Assurance/Waste Management. Containers meeting all specification requirements will have a Product Acceptable sticker or MCP QC Accepted stamp placed near the vendor serial number.

### 10.3 Pre-Use Inspection by a Generator

Waste containers are inspected by generator personnel prior to use to ensure that containers have been properly approved and are in good condition. Assurance that the pre-use inspection has been performed is documented on Form 7042X. Acceptance traceability is maintained by the Pre-Use Inspection performed by the generator, a generator's knowledge of their inventory, and the Waste Certification review of the paperwork; which includes a verification that the container came from an acceptable lot of containers.

### 10.4 Package Loading Verification

Four separate organizations at MCP provide Package Loading Verification (that is, inspection of packages being filled). At the generator level, each waste package has a Package Filler and Package Custodian assigned. Waste Certification conducts performance-based surveillances of package filling. Quality Assurance conducts, at a minimum, an audit of the entire program annually, evaluating all phases of the WCPP.

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### **10.5 Inspection of Filled Waste Packages by a Generator**

Inspection of filled waste packages is conducted according to criteria provided in generator-specific procedures and specification.

The WAC Lot Certifier in a generator organization is responsible for assembling analytical data certifications, determinations, and/or process knowledge into a Lot Records Package for a specific lot of filled waste packages. The requirements of this package are set forth in SPA930446. The purpose of this package is to support the certifier's signature on a form to Waste Certification certifying compliance to the waste acceptance criteria of NTSWAC. This form and package represent the generator's management review and compliance certification and is lot-specific and sent to Waste Certification for inclusion in the Waste Certification files. Waste packages will not be certified by Waste Certification unless this records package is complete, reviewed, and accepted.

### **10.6 Inspection of Waste Packages by Waste Operations**

Each waste package certified by a generator for transfer is inspected by Waste Operations to ensure the integrity of the waste package and the completeness of documentation. Waste Operations adds any necessary markings or labels (for example, shipment bar code label). Acceptable packages are subsequently submitted for certification to Waste Certification/Compliance.

### **10.7 Certification of Waste Packages by Waste Certification**

Waste Certification/Compliance inspects each waste package to be shipped to NTS. This inspection verifies compliance with NTSWAC requirements. Waste Certification affixes a package certification label to each acceptable waste package according to MD-81040. Documentation of these inspections is submitted to the Waste Certification Official designated for that shipment. This paperwork is essential to guarantee that the proper containers are on a given shipment.

### **10.8 Inspection by a Waste Certification Official**

A Waste Certification Official has final responsibility for certifying each LLW shipment meets applicable waste acceptance criteria and requirements. A walk-around visual inspection is conducted on every vehicle to verify the vehicle acceptability. After the walk-around inspection and paperwork verification is completed, the LLW certification statement, Form 9147F, is signed. Only when this certification is completed is a shipment allowed to leave MCP. The procedure governing this activity is in MD-81040.

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### ☒ 10.9 Inspection by Shipping

A shipping representative accompanies Waste Management to the trailer to observe that the:

- Required documentation package is provided to the carrier,
- Required placarding is in place,
- Trailer serial number and seal numbers match the numbers on the BOL,
- Seal(s) are secured, and
- Appropriate copies of the Bill of Lading are returned to Shipping.

The procedure governing this activity is in MD-81240.

### ☒ 11. TEST CONTROLS

MD-10541 (the software quality assurance manual) is used to evaluate the level of control required on software.

## 12. CONTROL OF MEASUREMENT AND TEST EQUIPMENT

### 12.1 Calibration

This responsibility for calibration of M&TE items resides in two separate organizations, depending on the type of calibration. Radiological Protection provides calibration services for radiation detection instruments, as documented in MD-10215. A contractor provides calibration services, as documented in MD-10096.

### 12.2 NIST Requirements

M&TE is calibrated using standards traceable to the National Institute of Standards and Technology or equivalent.

### 12.3 Calibration Review

As a part of each new waste profile submission, new waste streams are evaluated for calibration requirements. Calibration compliance is reviewed by the surveillance program. Instruments used for measurements found to be out of calibration during a surveillance will result in a DECAR.

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## 12.4 User's Responsibilities

Since calibrated M&TE items are labeled with pertinent calibration information, it is the user's responsibility to verify the calibration status of calibrated M&TE items prior to use. It is the user's responsibility to tag, and segregate when practical, out-of-calibration M&TE items to prevent inadvertent usage until recalibration occurs. It is unacceptable to use M&TE items when calibration has expired.

## 12.5 Certified Fixtures and Molds

It is the user's responsibility to obtain certification of fixtures, molds, or other tooling prior to use.

## 12.6 Out of Tolerance Equipment

When calibrated M&TE items are determined to be out of tolerance, a closed loop calibration system requiring corrective action and assessment of the effect on any product measured is required and documented. Details of the procedures are documented in the calibration manuals MD-10096 and MD-10215.

## 12.7 New Equipment

When new M&TE items are requisitioned, the requester consults with the organization with calibration responsibilities to ensure that the requested M&TE item will yield reliable and accurate measurements. Measurement uncertainty is considered for M&TE items in the selection and calibration of that item and in establishing and using criteria for approval or rejection of product.

## 12.8 Records

Calibration records are maintained for each M&TE item in accordance with the requirements.

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### 13. HANDLING, STORAGE AND SHIPPING

#### 13.1 Handling and Storage

LLW packages and sample containers are handled, stored, and shipped in a manner that will not adversely affect the waste package integrity, certification status, chain-of-custody, or safety of personnel.

A package custodian, who signs Form ML-7042X, is responsible for the security and contents of filled containers. Partially loaded containers may be left unattended if they have been secured (for example, locked, chained, TID attached). Filled waste containers are securely closed to prevent tampering. The procedures used to close a container depend on the container and manufacturer and are listed in the specific Waste Profile for the waste stream. Closure mechanisms are engaged; and, for drums, SeaLands, or other containers shipped on a flatbed truck, TIDs applied.

Filled waste packages are surveyed by Radiological Control.

The preshipment storage environment is controlled to the extent practical to prevent adverse effects due to weather and climate. Because of the large number of waste packages in inventory, outdoor interim storage is unavoidable. Preshipment staging is normally conducted indoors and starts when Waste Management requests that Waste Certification certify a package.

**NOTE:** The preshipment environment of large containers such as SeaLand containers may be limited to the outdoors.

Waste Certification receives Form ML-9147B and Lot Records package from the WAC Lot Certifier documenting the generator's compliance to the NTSWAC. Waste Certification reviews Form ML-9147B and Lot Records package. Form ML-9147A is initiated to document the review and acceptability of ML-9147B and Lot Records package by Waste Certification. Copies of Form ML-9147A are sent to Waste Management documenting the acceptability of that lot or subplot of waste. Copies of Form ML-9147A review of unacceptable Lot Record are sent back to the WAC Lot Certifier.

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### ☒ 13.2

#### Waste Shipments

LLW shipments are conducted in accordance with the requirements of DOE Orders 460.1A and 460.2, and applicable DOT regulations (49 CFR Parts 171-173 and 177-178), and NTSWAC requirements. Procedures are documented in MD-81240, MD-81040 and OPA920000. Placarding of LLW shipments is performed according to the requirements of 49 CFR 172. Verification that proper placards, labels, and trailer seals are in place is required for shipments, and documented in MD-81040 and MD-81240.

Each filled waste package is surveyed by Radiological Controls and the maximum readings at the surface and one-meter are documented on RSDS (Radiological Survey Data Sheet). Package contamination and radiation levels must meet the limits established by Radiological Protection.

Shipping documents, including BOL and individual package listing, are prepared for each shipment and issued to the driver along with carrier/driver instructions. A duplicate set of documentation is provided to the driver for NTS. Copies of shipping records are maintained in accordance with requirements.

Transport vehicles are inspected prior to each shipment by Waste Operations. Waste containers are loaded for proper weight distribution and secured at the direction of Waste Operations. A radiation survey is performed by Radiological Protection to ensure compliance with 49CFR 173 and 10 CFR 835 requirements. The vehicle is weighed, if applicable, to ensure that axle weights are within legal limits. Trailer doors are closed and a TID seal affixed prior to departure from MCP. Shipping procedures are specified in MD-81040 and MD-81240.

### ☒ 13.3

#### Fire Safety and Contingency Planning

MCP has fire protection services available 24-hours per day and emergency response procedures to minimize the adverse impacts to human health or the environment from a fire, explosion or accidental release of hazardous materials. The MCP Contingency Plan is documented in Systems Manual 721.

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### 13.4 ALARA

Handling and storage of LLW shall ensure that radiation exposures are kept to the minimum following sound ALARA practices. LLW packages have very low external radiation levels. Personnel dosimeters are routinely monitored to determine radiation exposure. The MCP ALARA Program is documented in PP-1059F and MD-80036. External radiation levels and external contamination of waste packages conform to the requirements of 10 CFR 835.

### ☒ 14. INSPECTION, TEST, AND OPERATIONAL STATUS

Supplier product inspections include visual and dimensional inspections of waste containers. Containers failing the acceptance inspection are dispositioned using the DECAR or MRB systems. Waste containers passing the acceptance inspection are approved for use by means of a Material Acceptance Report.

Form ML-7042X is used to accumulate data associated with waste package inspection, filling, sealing, and Waste Certification/Compliance review. Filled packages are sealed and affixed with the appropriate identification markings. Shipment Barcode labels are applied by Waste Operations. A "Package Certification" label is applied to each acceptable filled waste package as the result of a review by Waste Certification/Compliance personnel in MD-81040.

### 15. CONTROL OF NONCONFORMING ITEMS OR ACTIVITIES

#### 15.1 System Attributes Common to Both DECARS and MRBs

Materials and equipment important to the WCPP are subjected to quality systems to ensure conformance with manufacturing specifications and applicable NTSWAC, DOE, and DOT requirements. Inspections for nonconformances include audits, pre-use inspections, surveillances, and post sealing and preshipment inspections of filled waste containers. Control of nonconforming material is maintained through identification, reporting, segregation, and documentation using the DECAR or MRB systems.

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The principal elements for controlling non-conformances include:

- prominent identification
- proper documentation
- segregation of discrepant or nonconforming items
- disposition of nonconformances
- notification of other affected organizations
- corrective action requirements

Waste Certification/Compliance verifies that nonconforming items onsite have been properly labeled and segregated. DOE/NNSA/NSO will be notified of non-conformances found relating to waste packages or shipments that have already been shipped to NTS for disposal per MD-10346. Non-conformances are reviewed and dispositioned in accordance with documented procedures, and are not used until evaluated and dispositioned by Waste Certification/Compliance.

☒ Written documentation of non-conformances and respective corrective actions are retained. Waste Certification/Compliance records any nonconformance associated with LLW operations for applicability to other aspects of the WCPP. In addition, as an independent check, the Waste Certification Official is on distribution for the DECAR Action Item Status Report . This report is reviewed by the Waste Certification Official to ensure that nonconforming activities are being reported. Notification of nonconforming issues detected by surveillance activities are addressed by the DECAR system as described in MD-10346.

### ☒ 15.2

#### DECAR

DECARs are initiated for items (waste packages or other materials) or activities (procedures, processes, etc.) on-site which do not conform to specifications or quality requirements according to MD-10346 by the person detecting the nonconformance. If the DECAR addresses an item, it is placed on HOLD with HOLD tags being attached to the item being segregated.

Once a DECAR has been dispositioned and the items are considered acceptable, Waste Certification/Compliance authorizes the removal of the HOLD tags.

If the DECAR addresses an activity, then the activity is halted until the disposition section of the DECAR form is completed.

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Waste Certification/Compliance is responsible for ensuring that a controlled list of nonconformance reports is established and maintained. The list includes the report and or item identification, serial number and or location, report date, and report closure date for the DECAR system.

### 15.3 MRB

When a nonconformance is detected at a vendor's site, the containers are not accepted. A Material Review Report is written documenting the nonconformance. An MRB will be convened to review the nonconformance and decide on an appropriate course of action.

When a nonconformance is detected during the shipping and handling damage inspection at MCP; the containers are placed on HOLD, a HOLD tag is attached to each container by Quality Assurance/Waste Management personnel, and the containers are segregated. The Product Acceptable sticker or MCP QC accepted stamp is removed by Quality Assurance/Waste Management personnel. A Material Review Report is written documenting the nonconformance. An MRB will be convened to review the nonconformance and decide on an appropriate course of action. If the disposition merits, the Product Acceptable sticker or MCP QC accepted stamp is reapplied.

The Quality Assurance group is responsible for tracking and ensuring close-out for each MRB. The completed MRB is then included in Quality Assurance records in the material acceptance report documenting the status of the item.

### 16. CORRECTIVE ACTIONS

Inspections and surveillances utilize the DECAR system to report nonconforming situations as documented in MD-10346. Internal and external audits utilize formal reports, which require corrective actions and are tracked by the CARS system in Quality Assurance. Nonconforming materials detected during product acceptance go through the MRB process as documented in MD-10060. DECAR/MRB/CARS provides data for trend analysis by Quality Assurance.

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While there are different methods of detecting and reporting nonconformances, they all have several important similarities when it comes to having a closed-loop corrective action system that includes:

- Identification of the deficiency
- Corrective-action disposition
- Identification of the root cause
- Corrective action to preclude recurrence
- Follow-up to verify implementation and effectiveness of the corrective action
- Maintenance of a central filing list for each system

Depending on the severity of a nonconformance, shipping privileges may be withheld for affected waste stream(s) until the nonconformance is satisfactorily resolved. The Chief Waste Certification Official has the final authority to restart waste stream(s) shipping privileges if MCP suspends shipping privileges. DOE/NNSA/NSO has the final authority to authorize restarting shipping privileges they suspend.

Records documenting the dispositions and corrective actions for non-conformances are retained and maintained.

### 17. QA RECORDS

#### ☒ 17.1 General Requirements

Records pertinent to demonstrating compliance with waste certification criteria are maintained where they are secured and protected from damage, deterioration, or loss. MCP records retention and maintenance requirements are specified in MD-10540 and PP-7609.

It is MCP's policy not to store all active records in a single location, unless in fireproof cabinets. This provides several safeguards against natural disaster, security against willful damage, economics and the organization that creates and uses a record has ready access to the information.

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Records of supplier data, certifications, and inspection results are maintained by Quality Assurance. Records of Metrology calibration are maintained by each project. Calibration and test results for radiation detection instrumentation are maintained by Radiological Protection. Drawings and specifications are maintained by Quality Assurance and/or Waste Operations. Procedures and technical manuals are maintained by Quality Assurance. Audit reports, including corrective actions, are maintained by Quality Assurance. Training records are maintained by Training. In each case, these records are retained according to the appropriate schedules defined in MD-10540 and PP-7609.

### 17.2 Official Waste Certification Files

Waste Certification records are defined as documentation given to or generated by Waste Certification/Compliance during the process of reviewing, inspecting and accepting waste for shipment off-site. Examples of waste certification records include, but are not limited to, forms, computer printouts, inspection reports, signed certifications, etc. Information about a given lot of waste packages will be assembled into a lot records package.

The documentation discussed in the previous paragraph will remain in locked, fireproof repositories or maintained in dual storage, and access will be controlled by Waste Certification/Compliance personnel. An index of records will be attached to the repository.

### 17.3 Support Organization Files

Records maintained in support organizations are covered by individual quality plans. These records are considered different from Waste Certification Records are maintained in accordance with MD-10540 and PP-7609.

### 17.4 Error Correction

When a correction is necessary on paperwork (NOT manuals, specifications or drawings), draw a single line through the error. Make the correction next to the error, and date and initial each correction. Additions to forms, such as writing in additional information not typed in, also require dates and initials.

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## 18. AUDITS/SURVEILLANCES

### 18.1 Requirements

Technical audits and surveillances are conducted to assess the performance of the WCPP in meeting the requirements of NTSWAC.

It is the responsibility of the individual and his management to resolve audit findings in their areas, provide timely follow-up to determine corrective action, and provide responses to audits and assessments that include, as applicable:

- Action to correct deficiencies,
- Root cause identification,
- Actions to prevent recurrence,
- Lessons learned, and
- Actions to be taken for improvement

### 18.2 External Audit

An external audit of MCP's LLW management operations is performed biannually by DOE/NNSA/NSO. A tabletop or impromptu audit may be performed by DOE/NNSA/NSO annually in the interim years. Currently there is no prescribed schedule for audits by other external organizations, but several DOE organizations (for example, DOE/HQ, DOE/OH, DOE/MEMP) have reviewed selected MCP waste management operations in the past.

### 18.3 Independent Assessments

Independent assessments are scheduled and performed by the Quality Assurance group as detailed in PP-1060C. At a minimum, an internal independent assessment is performed on the certification program as a whole over a one-year period. This assessment covers all phases of the process. The Quality Assurance group consults with Waste Certification/Compliance to see if there are any areas of concern requiring special emphasis.

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PP-1060C documents all phases of the process including:

- Scheduling,
- Assessment plans,
- Assessment reports,
- Follow-up action verifying that corrective action has been taken,
- Close out documentation, and
- Record keeping requirements.

### **18.4 Surveillance Program**

LLW management activities are subject to periodic surveillances by Waste Certification/Compliance personnel; to verify compliance with established operating procedures, NTSWAC requirements, and other applicable requirements. This program is documented in MD-81251. Nonconformances are documented with the DECAR system.

## **19. TRAINING**

### **19.1 General Description**

Training for personnel who support LLW operations is accomplished in four phases. The first phase involves an orientation for persons associated with LLW operations covered by this WCPP and NTSWAC. The second phase involves a more detailed review of this WCPP and NTSWAC with all TR individuals and/or designated representatives who control program specific manuals associated with the WCPP at MCP. The third phase involves OJT checklists. The fourth phase involves internal and external training courses.

Training Plan G700 is documented and retained in Central Training files. It is a matrix based on job function documenting the requirements of the four phases of training specified. It is management's responsibility to ensure that personnel under their control have had the proper training. Surveillances will determine whether trained individuals are being used.

Central Training maintains master copies of training plans, lesson plans, transparencies and other course materials. Central Training also maintains a "training folder" for each MCP employee.

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### 19.2 Orientation (Phase 1)

Course number 070250 "NTSWAC Orientation" will be required by anyone identified in Training Plan G700 requiring Phase 1 training. Individuals must take the NTSWAC Refresher Course (470124) once every two years.

### 19.3 Technically Responsible Review (Phase 2)

Course number 070251 "NTSWAC & MD-81020 Review" has been set-up in Central Training and all TR individuals and/or designated representatives identified in the needs analysis are required to take this course. It is MCP's intention to "build-in" requirements of these two documents into procedures so that compliance will be procedure driven. The TR individuals and/or designated representatives will ensure that criteria of these two documents are incorporated into their procedural documents. Any changes to this plan, NTSWAC, and or any other regulatory driver may require that this review be given again. Once identified, all new TR individuals and/or designated representatives will be given this review so they may assess their new program assignments.

Waste Certification/Compliance will assess the need for refresher training per PP-1059D.

This section only applies to TR individuals and designated representatives on program- specific manuals associated directly with LLW operations and not indirectly related manuals.

### 19.4 On the Job Training (Phase 3)

The TR individual and/or designated representatives will designate which operations require an OJT checklist to document an individual's ability to perform that operation.

TR individual and/or designated representatives will evaluate their procedural changes to determine if the change significantly affects an operation requiring re-qualification of personnel.

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### 19.5 Additional Individual Training (Phase 4)

From Training Plan G700, additional specific training will be required, depending on the individual's function in the Waste Certification Program. Internal courses would include training on quality systems, document control, plant RCRA training, radiological protection orientations and OSHA. External courses would include training courses like the DOT Basic and DOE Trailer Inspection Course.